

## ABSTRACT

The present invention relates to a recyclable thermoplastic composite sheet which is excellent in mechanical properties, such as bending strength, bending elastic modulus, impact strength and linear thermal expansion coefficient, and also in secondary processability, and suitable for molding into various structures, such as panels for use as building materials, and automobile parts, as well as a manufacturing method thereof and an article manufactured therefrom. The sheet comprises: a center layer of a thermoplastic composite material comprising 40% by weight of reinforcing fibers with an average length of 1-30mm and 60% by weight of a thermoplastic resin containing an organic filler; and a continuous reinforcing fiber-impregnated prepreg layer laminated on at least one surface of the upper surface and lower surface of the center layer, the prepreg layer comprising 5-65% by weight of reinforcing fibers and 35-95% by weight of a thermoplastic resin containing a small amount of inorganic filler.